

**DRAFT SCREENING SITE INVESTIGATION  
FOR THE  
PHILADELPHIA SMELTING AND REFINING COMPANY SITE  
341 NEW MARKET STREET  
PHILADELPHIA, PENNSYLVANIA  
ECKEL SITE NUMBER 314**

Prepared for

U.S. Environmental Protection Agency Region 3  
Hazardous Site Cleanup Division  
1650 Arch Street  
Philadelphia, PA 19103

Prepared by

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Remedial Action Contract No. 68-S7-3002  
Work Assignment No. 048-PAPA-03ZZ  
Project No. I4185.47502.0903

January 31, 2007

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## **1.0 INTRODUCTION**

Under Remedial Action Contract (RAC) No. 68-S7-3002, Work Assignment No. 048-PAPA-03ZZ, U.S. Environmental Protection Agency (EPA) Region 3 tasked Tetra Tech, Inc. (Tt), to assist EPA Region 3 in the assessment of properties suspected to have been former lead smelter foundries. Tt subcontracted completion of this work assignment to Tetra Tech EM Inc. (Tetra Tech).

Former lead smelter sites nationwide were identified in an April 2001 article published in the American Journal of Public Health by Eckel, and others (Eckel study) (Reference [Ref.] 1). The majority of these lead smelters operated prior to 1964 and closed before the current environmental regulations were instituted. As part of the Eckel study, soil samples were collected from several of the identified former lead smelter properties. Results from the analysis of these soil samples indicated that concentrations of lead exceeded EPA's recommended screening level for lead in residential soils. The results of the Eckel study indicate that the air disposition of lead into soils from the former smelter operations may present an ongoing public health concern due to exposure of residential populations, especially children, located in the vicinity of these former lead smelters, to soils containing elevated concentrations of lead (Refs. 1, 2, and 3).

The Eckel study identified 77 properties that may have been formerly used as lead smelters within EPA Region 3 (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia). EPA Region 3 is currently investigating these 77 properties. The objective of EPA's investigation of these properties is to (1) determine the potential for lead-contaminated soil to be present at the former lead smelter site or nearby properties (2) identify any populations that may be at risk to exposure to this soil, and (3) determine if soil sampling is warranted at any of these sites or nearby properties.

The following activities were completed as part of the initial screening investigation of each of these former lead smelter sites: (1) verify the former lead smelter address listed in the Eckel

study through historical Sanborn fire insurance maps, tax parcel information, and/or contacting local agencies, (2) determine if the site is listed in EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database, (3) determine through census information and existing maps the number of schools, daycare centers or recreational parks that exist near the former lead smelter site, (4) determine the population residing within a 4-mile radius of the site, (5) conduct a windshield reconnaissance of the site and surrounding area to document the current land use, identify any exposed soil and verify the existence of any schools, daycare centers or parks in the immediate area, and (6) review all information acquired to determine if the collection and analysis of soil samples is warranted at the site or at any nearby property.

This report summarizes the findings of the tasks outlined above for the former lead smelter known as the Philadelphia Smelting and Refining Company site located at 341 New Market Street, Philadelphia, Pennsylvania 19106. Each former smelter property was given a number in Eckel's study. The Eckel study number for this site is 314 (Ref. 1).

## **2.0 SITE LOCATION**

The former Philadelphia Smelting and Refining Company facility was located at 341 New Market Street, Philadelphia, Pennsylvania 19106. The geographic coordinates of the former Philadelphia Smelting and Refining Company facility are approximately 39.956969 north latitude and 75.141804 west longitude on the Philadelphia and Camden, Pennsylvania-New Jersey Quadrangles, 7.5 minute series, United States Geological Survey topographic maps (see Appendix A, Figure 1). The site is not currently listed in EPA's CERCLIS database (Ref. 4). An aerial photograph of the vicinity of the former lead smelter site has been included in Appendix A, Figure 2. This aerial photograph reveals the exposed soils and any identified areas of potential concern such as schools, daycare centers, or parks located within a half-mile radius of the site.

### **3.0 SITE OBSERVATIONS**

On December 16, 2005, Tetra Tech completed a non-sampling windshield reconnaissance of the Philadelphia Smelting and Refining Company site and surrounding area. A photographic record of the current site conditions is included in Appendix B. Figure 3, shows the current layout of the site and surrounding area as observed during Tetra Tech's site reconnaissance. The following observations were recorded:

- The 300 block of New Market Street no longer exists. The vicinity of the site currently consists of on-ramps to Interstate 95 and Interstate 676, surrounded by various commercial and residential properties. The site is located in an area of Philadelphia occupied by both residential and commercial properties.
- There are vacant lots surrounding Interstate 95. There is a vacant lot and bus depot on Callowhill Street near to the estimated position of where New Market Street was previously located.
- Exposed soils were identified in the nearby vicinity. Exposed soil exists leading up to the onramps for Interstate 95 and Interstate 676, however, the soil is most likely clean fill used during the construction process of the highways.
- The Delaware River, a tributary to the Delaware Bay, is located approximately one-quarter mile east of the estimated vicinity of the site.
- No schools, parks, or daycare facilities were identified in the immediate vicinity of the site.

#### 4.0 POTENTIAL TARGETS

No potential targets were identified in the immediate vicinity of the former Philadelphia Smelting and Refining Company site. The population within a 4-mile radius of the site is summarized in the table below (Ref. 5).

**Population within a Four-mile Radius of the Site**

<b>Distance Ring (miles)</b>	<b>Population (number of persons)</b>
0.0 – 0.25	718
0.25 – 0.5	4,697
0.5 – 1.0	20,398
1.0- 2.0	127,790
2.0 - 3.0	249,002
3.0 – 4.0	249,201

Source: U.S. Department of Commerce. Landview V Environmental Mapping Software based on the Bureau of Census 2000 Population Data. December 12, 2005.

No schools, parks, or daycare facilities were identified in the immediate vicinity of the site. Three schools have been identified within one-half mile of the site. Madison School is approximately one-quarter mile north of the site. Paxson School is over one-quarter mile northwest of the site. Saint Agnes School was identified approximately one-half mile northwest of the site. Independence National Historical Park is greater than one-quarter mile southwest of the site. An unidentified park area is located one-half mile south of the former lead smelter.

## **5.0 FINDINGS AND RECOMMENDATIONS**

The site is located in an area of Philadelphia occupied by both residential and commercial properties. Exposed soils observed in close proximity of the site formerly used as a lead smelter, are likely to consist of clean fill utilized during construction activities subsequent to closure of the former lead smelter. Based on the lack of potential targets in the immediate vicinity of the site and the probably fill that has been added to the area subsequent to the closure of the lead smelter, Tetra Tech does not recommend soil sampling at this time.

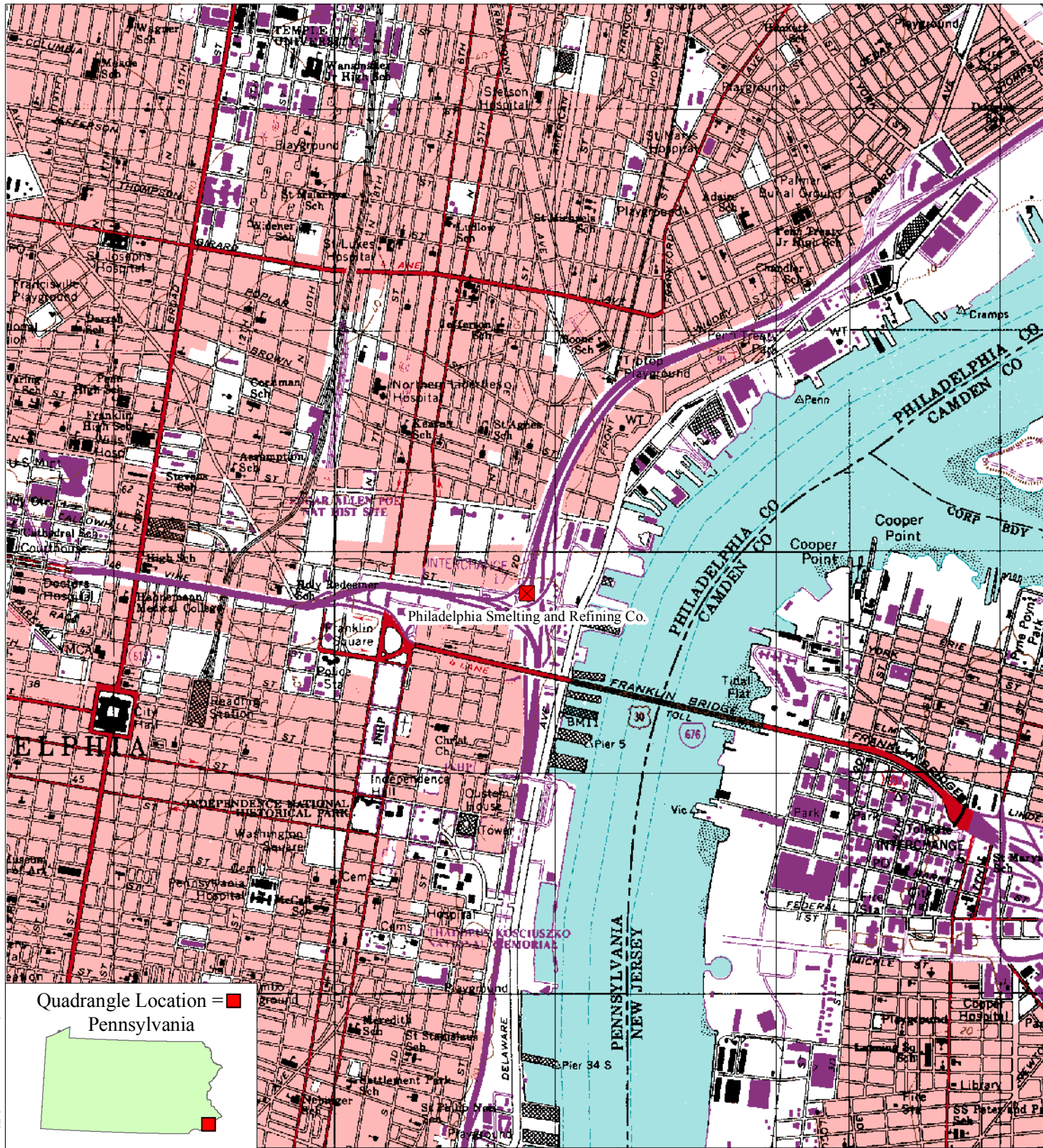
## REFERENCES

1. Eckel, W.P., Rabinowitz, M.B., Foster, G.D. American Journal of Public Health. "Discovering Unrecognized Lead-Smelting Sites by Historical Methods". April 2001.
2. Pennsylvania Department of Health. Suspected Former Lead Smelter Sites: A Potential Risk Factor for Childhood Lead Poisoning. August 2004.
3. U.S. Environmental Protection Agency (EPA). Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities. OSWER Directive 9355.4-12. July 14, 1994.
4. U.S. EPA. Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) database. On-Line Address: <http://cfpub.epa.gov/supercpad/cursites/srchsites.cfm>
5. U.S. Census Bureau. State and County Quick Facts. Accessed On-Line on December 12, 2005. On-Line Address: [quickfacts.census.gov/qfd/states/42.html](http://quickfacts.census.gov/qfd/states/42.html).

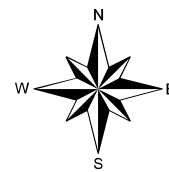


## **Appendix A**

### **Figures**



Philadelphia Smelting and Refining Company  
 341 New Market Street  
 Philadelphia, Pennsylvania  
 Eckel Site No. 314



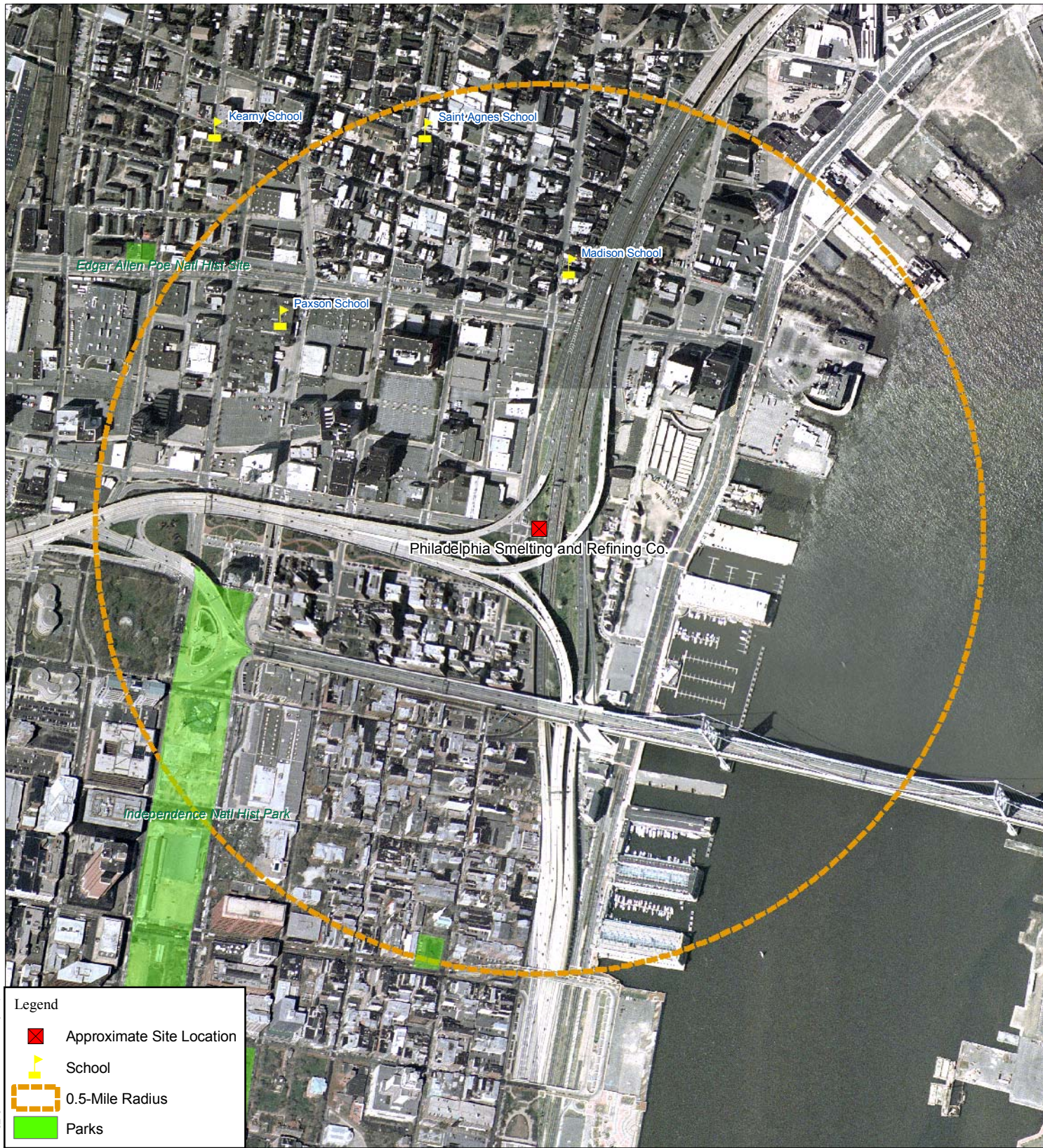
**Figure 1**  
 Site Location Map



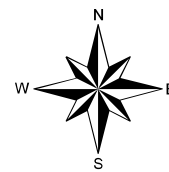
TETRA TECH EM INC.

Source: Modified from USGS, Philadelphia and Camden, Pennsylvania-New Jersey Quadrangles, 1995.





Philadelphia Smelting and Refining Company  
 341 New Market Street  
 Philadelphia, Pennsylvania  
 Eckel Site No. 314

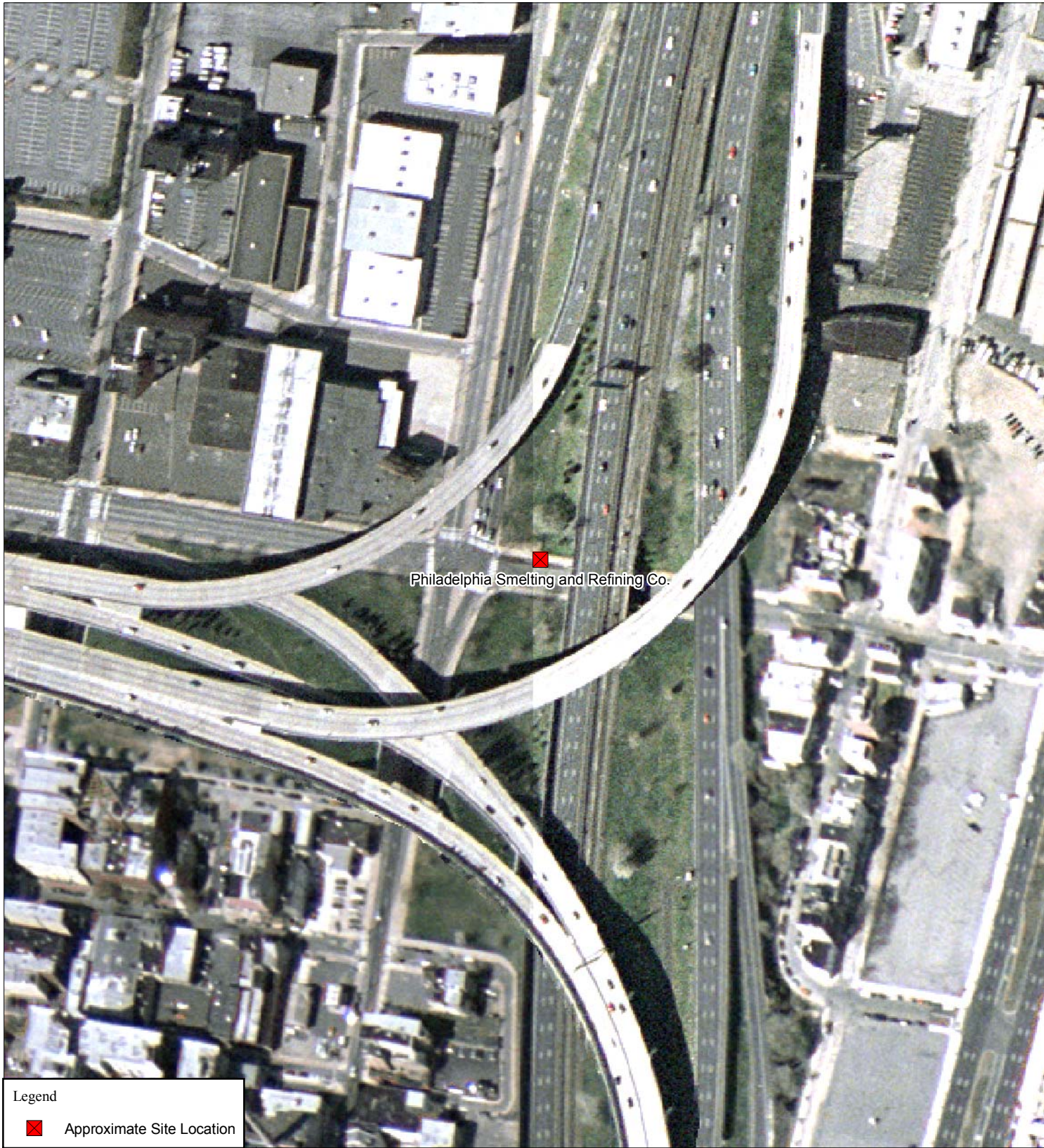


**Figure 2**  
 Aerial Photograph




Source: Modified from USGS, 2002, and ESRI, 2005





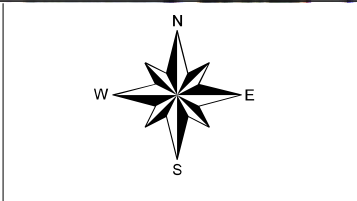
Legend

 Approximate Site Location

0 100 200 Feet

Scale in Feet

Philadelphia Smelting and Refining Company  
 341 New Market Street  
 Philadelphia, Pennsylvania  
 Eckel Site No. 314



**Figure 3**  
 Site Layout Map

Source: Modified from USGS, 2002, and ESRI, 2005



**Appendix B**  
**Photographic Documentation**





## *Photographic Documentation*

**Site Name:** Philadelphia Smelting and Refining Company -  
Eckel Number 314

**Prepared by:** Tetra Tech EM Inc.

**Location:** 341 New Market Street, Philadelphia, Pennsylvania

**Photographer:** [REDACTED]

### **Photograph No. 1**

**Photograph Date:**  
October 21, 2005

**Description:** Interstate 95 and  
Callowhill Street.



### **Photograph No. 2**

**Photograph Date:**  
October 21, 2005

**Description:** Interstate 95  
overpass.





## *Photographic Documentation*

**Site Name:** Philadelphia Smelting and Refining Company -  
Eckel Number 314

**Prepared by:** Tetra Tech EM Inc.

**Location:** 341 New Market Street, Philadelphia, Pennsylvania

**Photographer:** [REDACTED]

### **Photograph No. 3**

**Photograph Date:**  
October 21, 2005

**Description:** Grassy area around  
Interstate 95.



### **Photograph No. 4**

**Photograph Date:**  
October 21, 2005

**Description:** Residential  
buildings in area of where New  
Market Street was previously  
located.

